State of Kansas
Department of Health and Environment

Notice of Hearing on Proposed Administrative Regulations

The Kansas Department of Health and Environment, Division of Environment, Bureau of Water, Geology Section, will conduct a public hearing at 10 a.m. Tuesday, April 30, 2013, in the Flint Hills Conference Room, third floor, Curtis State Office Building, 1000 S.W. Jackson, Topeka, to consider the adoption of amended regulations K.A.R. 28-30-2, 28-30-3, 28-30-4, 28-30-5 and 28-30-6 pertaining to licensed water well contractors.

A summary of the proposed regulations and the estimated economic impact follows:

Summary of Regulations:

K.A.R. 28-30-2. Definitions. Adds definitions of the terms above-grade surface completion, at-grade surface completion, and designated driller; places all terms in alphabetical order.

K.A.R. 28-30-3. Licensing. Adds requirements for licensed corporations that require corporations to employ an individual who has taken and passed the water well contractor examination.

K.A.R. 28-30-4. General operating requirements. Moves the water well construction fee and license number requirements from K.A.R. 28-30-3 to K.A.R. 28-30-4.

K.A.R. 28-30-5. Construction regulations for public water-supply wells. Deletes sanitation zones from the regulations as sanitation zones are no longer valid.

K.A.R. 28-30-6. Construction regulations for all water wells not included under K.A.R. 28-30-5. Allows flush mounted monitoring wells when the wells are located in high-traffic areas, providing certain conditions are met.

Economic Impact:

Cost to licensed corporations: Changes to K.A.R. 28-30-3, which will now require a corporation licensed as a Kansas water well contractor to retain an individual who has taken and passed the Kansas water well contractor examination, will result in a small fiscal impact to a licensed corporation.

Cost to the agency: The proposed regulations will not result in any increased costs to the agency.

Costs to other governmental agencies or units: There are no known additional costs to other governmental agencies or units.

The time period between publication of this notice and the scheduled hearing serves as the required public comment period of at least 60 days for the purpose of receiving written public comments on the proposed amended regulations. All interested parties may submit written comments prior to 5 p.m. on the day of the hearing to Richard Harper, KDHE, Bureau of Water, 1000 S.W. Jackson, Suite 420, Topeka, 66612, by email to rharper@kdheks.gov or by fax to (785) 296-5509. During the hearing, all interested parties will be given a reasonable opportunity to present their views orally on the proposed

amended regulations as well as an opportunity to submit their written comments. In order to give each individual an opportunity to present their views, it may be necessary for the hearing officer to request that each presenter limit any oral presentation to an appropriate time frame.

Complete copies of the proposed regulations and the corresponding regulatory impact statement may be obtained on the KDHE geology website at http://www.kdheks.gov/waterwell.html or by contacting Richard Harper at (785) 296-3565 or rharper@kdheks.gov. Questions pertaining to the proposed regulations should be directed to Richard Harper.

Any individual with a disability may request accommodation in order to participate in the public hearing and may request the proposed regulations and the regulatory impact statement in an accessible format. Requests for accommodation should be made at least five working days in advance of the hearing by contacting Richard Harper.

Robert Moser, M.D.

Secretary of Health and Environment

Kansas Department of Health and Environment
Division of Environment
Bureau of Water
January 23, 2013

REGULATORY IMPACT STATEMENT CONSISTING OF:

I. ENVIRONMENTAL BENEFIT STATEMENT

AND

II. ECONOMIC IMPACT STATEMENT

Pursuant to K.S.A. 2012 Supp. 77-416

PROPOSED AMENDED REGULATIONS:

Article 30-Water Well Contractor's License; Water Well Construction Regulations

Amended – K.A.R. 28-30-2
K.A.R. 28-30-3
K.A.R. 28-30-4
K.A.R. 28-30-5
K.A.R. 28-30-6

Executive Summary of Proposed Amended Regulations

The Kansas Department of Health and Environment (KDHE) is proposing to adopt amended regulations K.A. R. 28-30-2, K.A.R. 28-30-3, K.A.R. 28-30-4, K.A.R. 28-30-5 and K.A.R. 28-30-6. An important aspect of these proposed regulations is to allow the construction of monitoring wells at ground level when they are located in high traffic areas and under conditions set forth in the proposed regulations are met. All other wells are required to be constructed at least 12 inches above ground level. Presently, KDHE receives approximately 221 requests per year asking for monitoring wells to be constructed at ground level in high traffic areas. KDHE reviews the requests and provides written approval of their requests. The review of their requests and development of the approval letter creates a significant work load for staff, which would be relieved by the adoption of these regulations.

KDHE is also proposing to require an individual who has passed the Water Well Contractor's Exam to be employed by the Kansas Licensed Water Well Contractor. Presently, when a person who originally passed the water well exam to become a Kansas Licensed Water Well Contractor leaves employment of the company, the license stays with the company. Therefore leaving the company without anyone on staff that has taken and passed the Water Well Contractor's Exam ensuring KDHE that proper water well construction, reconstruction and/or plugging is being met. KDHE proposes to allow the company 90 days after the individual leaves employment to have another individual to schedule to take and ultimately pass the Water Well Contractor's Exam.

KDHE proposes to remove the reciprocity provision in the current regulations. Current reciprocity regulations require KDHE to charge the same fees that out-of-state Water Well Contractor's are charged in their state, providing they are equal to Kansas' fees or greater. This regulation requires KDHE to contact the State Agency within the State where the out-of-state water well contractor resides to get the current cost of become a licensed water well contractor in that state. This process is time consuming and inefficient and KDHE believes the fees assessed out-of-state water well contractors should be the same assessed to in state water well contractors.

KDHE Water Well Program staff sent the regulation proposal to stakeholders for their comment and input. This included Kansas Ground Water Association and Kansas Licensed Water Well Contractors. A presentation was also made at the Kansas Ground Water Association's Conference. Numerous conversations and discussions were made

with the Board Members of the Kansas Ground Water Association and Kansas Licensed Water Well Contractors.

The Kansas Ground Water Association consists of three divisions, the Contractor's Division, Manufacturers & Suppliers Division and the Technical Division. The Contractors Division is made up Kansas Licensed Water Well Contractors who are engaged in the business of drilling and/or servicing water wells and/or pumps. The Manufacturers & Suppliers consists of representatives from companies who are engaged in the manufacture or sale of merchandise, materials, accessories or services used or sold to the Water Well Contractor. The Technical Division consists of individuals who are engaged in occupations pertaining to the supervision, regulation or investigation of underground water or ground water supply, or any teacher in a recognized institution whose field of teaching, research, or study is of interest to and/or associated with the water well industry.

Provisions of the proposed regulations include:

- Allowing Monitoring Wells to be Constructed at Ground Level when Located in High Traffic Areas.
- Requiring all Licensed Water Well Contractors to Retain on their Staff Someone who has Successfully Passed the Water Well Exam.
- Remove the Reciprocity Provision.
- Updating and Correcting Existing Regulatory Language.

Environmental Benefit Statement

1. Need for proposed regulations and environmental benefit likely to accrue.

a. Need - The proposed regulations will greatly reduce the work load for KDHE Staff by allowing monitoring wells to be constructed at ground level while having no impact to the protection of public health, safety and the environment. Additionally, the proposed regulations will ensure Water Well Contractor's know the water well regulations and ensures water wells are being constructed, reconstructed and/or plugged properly.

b. Environmental benefits – Allowing monitoring wells to be constructed level with the ground surface, in parking lots, driveways, gas stations, roadways or other heavily trafficked area will greatly reduce the work load placed on staff while having no adverse impact to the Environment. Having water well contractors that have passed the Water Well Contractor's exam on staff ensures they have the knowledge of proper well construction, reconstruction and/or plugging, which would enhance protection of the environment.

2. When applicable, a summary of the research or data indicating the level of risk to the public health or the environment being removed or controlled by the proposed regulations or amendments.

a. Presently, all wells are required to be constructed at least 12 inches above ground surface, including monitoring wells. Placing a monitoring well in parking lots, driveways, gas stations, roadways or other heavily trafficked area 12 inches above ground surface is not practical or protective. KDHE is required to grant a variance to the regulation that requires the well to be 12 inches above ground surface, in these cases. During the Calendar year of 2012, KDHE reviewed, approved and responded to 221 requests to locate monitoring wells in parking lots, driveways, gas stations, roadways or other heavily trafficked areas. Monitoring wells constructed at ground surface if constructed in accordance to the proposed regulations pose little risk to public health.

b. By allowing reciprocity to out-of-state water well contractors to become Kansas Licensed Water Well Contractors without taking the Kansas Water Well Contractor's exam does not ensure they would know Kansas regulations on water well construction. Passing the exam would assure KDHE they are knowledgeable of what is required to protect the environment.

3. If specific contaminates are to be controlled by the proposed regulation or amendment, a description indicating the level at which the contaminants are considered harmful according to current available research.

a. Contaminants associated with parking lots, driveways, gas stations, roadways or other heavily trafficked areas**,** include oil, grease, antifreeze, brake fluid, transmission fluid, solvents and heavy metals. Most chemical constituents found in solvents and heavy metals such as lead have maximum contaminant levels established by the U.S. Environmental Protection Agency (EPA) for water used as a public water supply. For example, EPA has established an action level of 15 ug/l for lead and a maximum contaminant level of 5 ug/l for trichloroethylene, which is a commonly used solvent for metal degreasing purposes.

b. Should KDHE allow Water Well Contractors the ability to work in the State without the knowledge of the regulations allowing them to pass the water

well contractor's exam could possibly subject the groundwater supplies to a host of different contaminants.

Economic Impact Statement

1) Are the proposed regulations or amendments mandated by federal law as a requirement for participating in or implementing a federally subsidized or assisted program?

No. Federal law does not mandate these proposed regulations.

2) Do the proposed regulations or amendments exceed the requirements of applicable federal law?

These proposed regulations are not mandated by federal law and there are no applicable federal laws.

3) Description of costs to agencies, to the general public and to persons who are affected by, or are subject to, the regulations.

a. KDHE has been granting waiver of current regulations to allow monitoring wells located in high traffic areas to be constructed at ground level for many years. These regulations would eliminate a great amount of time being spent on receiving, reviewing and responding to waiver requests. Therefore, KDHE and the industry will benefit with the adoption of the regulations. There is no additional cost to KDHE or the public or those affected by this proposed regulations.

b. Requiring someone on staff of a water well contractor who has successfully taken and passed the water well exam after the person who had originally taken and passed the exam left employment would have an impact to the company, since they would have to send someone to a KDHE office to take and pass the exam. The impact to a company is detailed as follows:

1. Study for the Exam (estimate 2 days@ $160.00/day = $320.00) $320.00

2. Travel to/from Exam (estimate I day @ $160.00)
160.00

3. Mileage Expense (estimate 200 miles @ $.40/mile = $80.00)
80.00

4. KDHE's exam fee ($10.00, which is required by regulations)
10.00

5. KDHE's license Fee ($100.00, which is required by regulations)
100.00

The economic impact to the company is estimated being $670.00.

a) Capital and annual costs of compliance with the proposed regulations or amendments and the person who will bear those costs.

KDHE and the industry will benefit as will the industry by adoption of these regulations, since there will no longer require a waiver of current regulations to allow ground level monitoring wells.

There would be an initial cost to the Water Well Contractor who has to send someone to take the Water Well Contractor's exam.

b) Initial and annual costs of implementing and enforcing the proposed regulations or amendments, including the estimated amount of paperwork, and the state agencies, other governmental agencies or other persons or entities who will bear the costs.

There will be no additional financial impact or paperwork on KDHE. There will not be any financial impact or paperwork on other state agencies or other governmental agencies. There will be no additional paperwork on the industry. The proposed regulations will reduce the paperwork to KDHE, all other governmental agencies and the industry.

c) Cost that would likely accrue if the proposed regulations or amendments were not adopted, the persons who will bear the costs and those who will be affected by the failure to adopt the regulations.

By not approving these regulations, KDHE and the industry will bear the costs. Those costs include, the industry submitting a regulation waiver request to KDHE for review. KDHE would then review the request and submit in writing the waiver approval.

d) A detailed statement of the data and methodology used to estimate the costs used in the statement.

KDHE believes there are no additional costs for KDHE or the industry for the adoption of the regulations allowing monitoring wells to be installed at grade. In fact, KDHE will spend less money, by eliminating a great amount of time reviewing these waiver requests which can be used in additional areas of the

Water Well Program. Additionally, the industry will spend less money by eliminating a great amount time creating a written regulation waiver request.

However, there would be a minimal cost to KDHE and the industry for the adoption of the proposed regulation requiring someone on staff of a water well contractor who has successfully taken and passed the water well exam after the person who had originally taken and passed the exam left employment. KDHE would be required to administer and grade the water well exam. The industry would be required to send someone from their company to a KDHE Office to take the water well exam. The economic impact to send an employee to take the water well contractor's exam is detailed in Section 3 above. This information is based on discussions with the industry.

e) Description of any less costly or less intrusive methods that were considered by the agency and why such methods were rejected in favor of the proposed regulations.

No other methods were considered and rejected.

f) Consultation with League of Kansas Municipalities, Kansas Association of Counties, and the Kansas Association of School Boards.

The department does not anticipate the proposed regulations will have any significant financial impact on these organizations. Copies of the draft regulations and regulatory impact statement will be forwarded to the Kansas League of Municipalities, Kansas Association of Counties and Kansas Association of School Boards at the time of publication of the Notice of Hearing in the Kansas Register.

28-30-2. Definitions. In addition to the definitions in K.S.A. 82a-1203 and amendments thereto, each of the following terms shall have the meaning assigned in this regulation:

(a) ~~"License" means a document issued by the Kansas department of health and environment to qualified persons making application therefore, authorizing such persons to engage in the business of water well contracting.~~

~~(b) "Department" means the Kansas department of health and environment.~~

~~(c) "Abandoned water well" means a water well determined by the department to be a well:~~

~~(1) whose use has been permanently discontinued;~~

~~(2) in which pumping equipment has been permanently removed;~~

~~(3) which is either in such a state of disrepair that it cannot be used to supply water, or has the potential for transmitting surface contaminants into the aquifer, or both;~~

~~(4) which poses potential health and safety hazards; or~~

~~(5) which is in such a condition that it cannot be placed in active or inactive status.~~

~~(d) "Water well contractor" or "contractor" means any individual, firm, partnership, association, or corporation who constructs, reconstructs, or treats a water well. The term shall not include:~~

~~(1) an individual constructing, reconstructing or treating a water well located on land owned by the individual, when the well is used by the individual for farming, ranching, or agricultural purposes or for domestic purposes at the individual's place of abode; or~~

~~(2) an individual who performs labor or services for a licensed water well contractor at the contractor's direction and under the contractor's supervision.~~

~~(e) "Aquifer" means an underground formation that contains and is capable of transmitting groundwater.~~

~~(f) "Confined aquifer" is an aquifer overlain and underlain by impermeable layers. Groundwater in a confined aquifer is under pressure greater than atmospheric pressure and will rise in a well above the point at which it is first encountered.~~

~~(g) "Unconfined aquifer" is an aquifer containing groundwater at atmospheric pressure. The upper surface of the groundwater in an unconfined aquifer is the water table.~~

~~(h) "Domestic uses" means the use of water by any person or family unit or household for household purposes, or for the watering of livestock, poultry, farm and domestic animals used in operating a farm, or for the irrigation of lands not exceeding a total of two acres in area for the growing of gardens, orchards and lawns.~~

~~(i) "Public water-supply well" means a well that:~~

~~(1) provides groundwater to the public for human consumption; and~~

~~(2) has at least 10 service connections or serves an average of at least 25 individuals daily at least 60 days out of the year.~~

~~(j) "Groundwater" means the part of the sub-surface water which is in the zone of saturation.~~

~~(k) "Grout" means cement grout, neat cement grout, bentonite clay grout or other material approved by the department used to create a permanent impervious watertight bond between the casing and the undisturbed formation surrounding the casing or between two or more strings of casing.~~

~~(1) "Neat cement grout" means a mixture consisting of one 94 pound bag of portland cement to five to six gallons of clean water.~~

~~(2) "Cement grout" means a mixture consisting of one 94 pound bag of portland cement to an equal volume of sand having a diameter no larger than 0.080 inches (2 millimeters) to five to six gallons of clean water.~~

~~(3) "Bentonite clay grout" means a mixture consisting of water and commercial grouting or plugging sodium bentonite clay containing high solids such as that manufactured under the trade name of "volclay grout," or an equivalent as approved by the department.~~

~~(A) The mixture shall be as per the manufacturer's recommendations to achieve a weight of not less than 9.4 pounds per gallon of mix. Weighting agents may be added as per the manufacturer's recommendations.~~

~~(B) Sodium bentonite pellets, tablets or granular sodium bentonite may also be used if they meet the specifications listed in paragraph (k)(3) of this regulation.~~

~~(C) Sodium bentonite products that contain low solids, are designed for drilling purposes, or that contain organic polymers shall not be used.~~

~~(l) "Pitless well adapter or unit" means an assembly of parts installed below the frost line which will permit pumped groundwater to pass through the wall of the casing or extension thereof and prevent entrance of contaminants.~~

~~(m) "Test hole" or "hole" means any excavation constructed for the purpose of determining the geologic, hydrologic and water quality characteristics of underground formations.~~

~~(n) "Static water level" means the highest point below or above ground level which the groundwater in the well reaches naturally.~~

~~(o) "Annular space" means the space between the well casing and the well bore or the space between two or more strings of well casing.~~

~~(p) "Sanitary well seal" is a manufactured seal installed at the top of the well casing which, when installed, creates an airtight and watertight seal to prevent contaminated or polluted water from gaining access to the groundwater supply.~~

~~(q) "Treatment" means the stimulation of production of groundwater from a water well, through the use of hydrochloric acid, muriatic acid, sulfamic acid, calcium or sodium hypochlorite, polyphosphates or other chemicals and mechanical means, for the purpose of reducing or removing iron and manganese hydroxide and oxide deposits, calcium and magnesium carbonate deposits and slime deposits associated with iron or manganese bacterial growths which inhibit the movement of groundwater into the well.~~

~~(r) "Reconstructed water well" means an existing well that has been deepened or has had the casing replaced, repaired, added to or modified in any way for the purpose of obtaining groundwater.~~

~~(s) "Pump pit" means a watertight structure which:~~

~~(1) is constructed at least two feet away from the water well and below ground level to prevent freezing of pumped groundwater; and~~

~~(2) houses the pump or pressure tank, distribution lines, electrical controls, or other appurtenances.~~

~~(t) "Grout tremie pipe" or "grout pipe" means a steel or galvanized steel pipe or similar pipe having equivalent structural soundness that is used to pump grout to a point of selected emplacement during the grounting of a well casing or plugging of an abandoned well or test hole.~~

~~(u) "Uncased test hole" means any test hole in which casing has been removed or in which casing has not been installed.~~

~~(v) "Drilling rig registration license number" means a number assigned by the department which is affixed to each drilling rig operated by or for a licensed water well contractor.~~

~~(w) "Active well" means a water well which is an operating well used to withdraw water, or to monitor or observe groundwater conditions.~~

~~(x) "Inactive status" means a water well which is not presently operating but is maintained in such a way that it can be put back in operation with a minimum of effort.~~

~~(y) "Heat pump hole" means a hole drilled to install piping for an earth coupled water source heat pump system, also known as a vertical closed loop system.~~

"Abandoned water well" means a water well determined by the department to meet at least one of the following conditions:

(1) Use of the water well has been permanently discontinued.

(2) Pumping equipment has been permanently removed from the water well.

(3) The water well either is in such disrepair that it cannot be used to supply water or has the potential for transmitting surface contaminants into the aquifer, or both.

(4) The water well poses potential health and safety hazards.

(5) The water well is in such a condition that it is not an active well or cannot be placed in inactive status.

(b) "Above-grade surface completion" means the termination of a water well or boring if the casing being used is at least 12 inches above the surrounding ground surface.

(c) "Active well" means a water well that is operating and is used to withdraw water or to monitor or observe groundwater conditions.

(d) "Annulus" means the space between the casing and the boring or the space between two or more strings of casing.

(e) "Aquifer" means an underground formation that contains and is capable of transmitting groundwater.

(f) "At-grade surface completion" means the termination of a monitoring well or boring if the casing is at the surrounding ground surface.

(g) "Cased test hole" means any test hole in which casing has been installed and grouted.

(h) "Confined aquifer" means an aquifer overlain and underlain by impermeable layers. Groundwater in a confined aquifer is under pressure greater than atmospheric pressure and will rise in a water well above the point at which groundwater is first encountered.

(i) "Department" means Kansas department of health and environment.

(j) "Designated person" means the individual designated by a water well contractor who is the contact person for compliance issues and who is responsible for submitting water well records and for earning the units of approved continuing education credits required by K.A.R. 28-30-3. The designated person may be the water well contractor.

(k) "Drill rig" means an apparatus operated to create a hole or shaft in the ground in which a water well is constructed.

(l) "Drill rig license number" means the numbers and letters assigned by the department that are affixed to each drill rig operated by or for a water well contractor.

(m) "Drilling fluid" means any fluid, including water, that is added during the drilling process to help increase the drilling efficiency.

(n) "Fresh groundwater" means water containing not more than 1,000 milligrams of total dissolved solids per liter and 500 milligrams of chloride per liter.

(o) "Groundwater" means the part of the subsurface water that is in the zone of saturation.

(p) "Grout" means bentonite clay grout, cement grout, neat cement grout, or other material approved by the secretary used to create a permanent impervious, watertight bond between the casing and the undisturbed formation surrounding the casing or between two or more strings of casing.

(1) "Bentonite clay grout" means a mixture of water and either commercial grouting or plugging sodium bentonite clay, including sodium bentonite clay manufactured under the trade name "volclay grout," or an equivalent approved by the department according to the following:

(A) The mixture shall be prepared according to the manufacturer's recommendations to achieve a weight of at least 9.4 pounds per gallon of mix. Weighting agents may be added according to the manufacturer's recommendations.

(B) Sodium bentonite pellets, tablets, or granular sodium bentonite may also be used if these additives or materials meet the specifications listed in paragraph (p)(1).

(C) Sodium bentonite products that are designed for drilling purposes or contain organic polymers shall not be used.

(2) "Cement grout" means a mixture of one 94-pound bag of portland cement, an equal volume of sand having a diameter no larger than two millimeters, and five to six gallons of clean water.

(3) "Neat cement grout" means a mixture of one 94-pound bag of portland cement and five to six gallons of clean water.

(q) "Grout tremie pipe" and "grout pipe" mean a steel or galvanized steel pipe or similar pipe having equivalent structural soundness that is used to pump grout to a point of selected emplacement during the grouting of a casing or plugging of an abandoned water well or test hole.

(r) "Heat pump hole" means a hole drilled to install piping for an earth-coupled water source heat pump system, also known as a vertical closed-loop system.

(s) "Inactive status" means a water well that is not presently operating but is maintained so that the water well can be put back in operation with minimum effort.

(t) "Monitoring well" means a water well used to monitor, obtain, or collect hydrologic, geologic, geophysical, chemical, or other technical data pertaining to groundwater, surface water, or other hydrologic conditions. A monitoring well is also known as an "observation well."

(u) "Pitless well adapter or unit" means an assembly of parts installed below the frost line that permits pumped groundwater to pass through the wall of the casing or the extension of the casing and prevent the entrance of contaminants.

(v) "Public water-supply well" means a water well that meets both of the following conditions:

(1) Provides groundwater to the public for human consumption; and

(2) has at least 10 service connections or serves an average of at least 25 individuals daily for at least 60 days during a calendar year.

(w) "Pump pit" means a watertight structure that meets both of the following conditions:

(1) Is constructed as follows:

(A) At least two feet away from the water well; and

(B) below ground level to prevent the freezing of pumped groundwater; and

(2) houses the pump or pressure tank, distribution lines, electrical controls, or other appurtenances.

(x) "Reconstructed water well" means an existing water well that has been deepened or has had the casing replaced, repaired, added to, or modified in any way for the purpose of obtaining groundwater.

(y) "Sand point" has the meaning specified in K.S.A. 82a-1203, and amendments thereto.

(z) "Sanitary well seal" means a manufactured seal installed at the top of the casing that, when installed, creates an airtight and watertight seal to prevent contaminated or polluted water from gaining access to the groundwater supply.

(aa) "Static water level" means the highest point below or above ground level that the groundwater in the water well reaches naturally.

(bb) "Test hole" and "hole" mean any excavation constructed for the purpose of determining the geologic, hydrologic, and water quality characteristics of underground formations.

(cc) "Treatment" means the stimulation of the production of groundwater from a water well through the use of hydrochloric acid, muratic acid, sulfamic acid, calcium or sodium hypochlorite, polyphosphates or other chemicals, and mechanical means, to reduce or remove iron and manganese hydroxide and oxide deposits, calcium and magnesium carbonate deposits, and slime deposits associated with iron or manganese bacterial growths that inhibit the movement of groundwater into the water well.

(dd) "Uncased test hole" means any test hole from which casing has been removed or in which casing has not been installed.

(ee) "Unconfined aquifer" means an aquifer containing groundwater at atmospheric pressure. The upper surface of the groundwater in an unconfined aquifer is the water table.

(ff) "Water well" has the meaning specified in K.S.A. 82a-1203, and amendments thereto. (Authorized by K.S.A. ~~1992 Supp.~~ 82a-1205 and 82a-1213; implementing K.S.A. 82a-1202, ~~K.S.A. 1992 Supp.~~ 82a-1205, and 82a-1213; effective, E-74-34, July 2, 1974; modified, L. 1975, ch. 481, May 1, 1975; amended May 1, 1980; amended May 1, 1987; amended Nov. 22, 1993; amended P-_____.)

28-30-3. Licensing. (a) Eligibility. To be eligible for a water well contractor's license, ~~an~~ each applicant shall meet the following requirements:

(1) Submit a complete license application on a form provided by the department;

(2) submit a water well contractor application fee of $10.00;

(3) (A) Pass ~~an~~ the water well contractor examination conducted by the department or employ a designated person who has passed the water well contractor examination; and

(B) submit a license fee of $100.00 if the applicant or designated person passes the water well contractor examination; ~~or~~ and

~~(2)~~ (4) ~~meet the conditions contained in subsection (c)~~ submit a complete registration form on a form provided by the department for each drill rig operated by or for the applicant and a registration fee of $25.00 for each drill rig operated by or for the applicant.

(b) ~~Application and Fees.~~

~~(1) Each application shall be accompanied by an application fee of $10.00.~~

~~(2) Before issuance of a water well contractor's license, each contractor shall pay a license fee of $100.00 plus $25.00 for each drill rig operated by or for the contractor. These fees shall accompany the application and shall be by bank draft, check or money order payable to the Kansas department of health and environment—water well licensure.~~

~~(c) Reciprocity.~~

~~(1) Upon receipt of an application and payment of the required fees from a nonresident, the secretary may issue a license, providing the nonresident holds a valid~~

~~license from another state and meets the minimum requirements for licensing as prescribed in K.S.A. 82a-1207, and any amendments thereto.~~

~~(2) If the nonresident applicant is incorporated, evidence shall be submitted to the department of health and environment showing that the applicant meets the registration requirements of the Kansas secretary of state.~~

~~(3) Nonresident fees for a license shall be equal to the fee charged a Kansas contractor by the applicant's state of residence but shall not be less than $100.00. The application fee and drill rig license fee shall be the same as the Kansas resident fees.~~

~~(d)~~ License renewal.

(1) Each licensee shall ~~make~~ submit an application for renewal of license and drill rig registrations before July 1 of each year by filing the proper renewal forms provided by the department and ~~fulfilling~~ by meeting the following requirements:

(A) ~~Payment of~~ Paying the annual license fee and a drill rig registration fee for each drill rig to be operated in the state;

(B) filing ~~of~~ all ~~well~~ records for each water well constructed, reconstructed, or plugged by the licensee in accordance with ~~K.S.A.~~ K.A.R. 28-30-4 during the previous licensure period;

(C) filing a report, on a form ~~provided~~ approved by the department, of all approved continuing education units earned by the licensee or designated person during the previous licensure period;

(D) ~~satisfying~~ meeting the continuing education requirements ~~set forth~~ in subsection ~~(g)~~ (c); and

(E) providing any remaining outstanding information or records requested that existed ~~prior to~~ before the issuance or revocation of a license.

(2) Failure to comply with ~~paragraphs (A), (B), (C), (D) and (E) above~~ the requirements of this subsection shall be grounds to revoke the existing license and terminate the license renewal process.

~~(e) Water well construction fee. A fee of $5.00 shall be paid to the Kansas department of health and environment, either by bank draft, check or money order, for each water well constructed by a licensed water well contractor. The construction fee shall be paid when the contractor requests the water well record form WWC-5 from the department, or shall accompany the water well records submitted on form WWC-5 as required under K.A.R. 28-30-4. No fee shall be required for reconstructed or plugged water wells.~~

~~(f) License number. Each drill rig operated by or for a licensed water well contractor shall have prominently displayed thereon the drill rig license number, as assigned by the department, in letters at least two inches in height. Decals, paint, or other permanent marking materials shall be used.~~

~~(g)~~ (c) Continuing education requirements. ~~Licensed~~ Each water well ~~contractors~~ contractor or the contractor's designated person shall earn at least eight units of ~~approved~~

continuing education ~~per~~ approved by the secretary. This requirement shall apply each year beginning with the first full year of licensure or the renewal period. One unit of continuing education shall equal 50 minutes of approved instruction except for trade shows and exhibitions, which shall be counted as one unit ~~per~~ for each approved trade show ~~and~~ or exhibition attended.

(d) Employment requirements. If the designated person who has passed the water well contractor examination under paragraph (a)(3)(A) leaves the contractor's employment, the contractor shall employ a designated person who shall take, within 90 days, and be required to pass the water well contractor examination. (Authorized by K.S.A. ~~1992 Supp.~~ 82a-1205, K.S.A. 2011 Supp. 82a-1206, and K.S.A. 82a-1207; implementing K.S.A. 82a-1202, K.S.A. ~~1992 Supp.~~ 82a-1205, K.S.A. 2011 Supp. 82a-1206, K.S.A. 82a-1207, K.S.A. 82a-1209, and K.S.A. 82a-1212; effective, E-74-34, July 2, 1974; effective May 1, 1975; amended May 1, 1980; amended May 1, 1983; amended May 1, 1987; amended Nov. 22, 1993; amended P- _____.)

28-30-4. General operating requirements. (a) Water well record.

(1) Within 30 days after construction or reconstruction of a water well, ~~the~~ each water well contractor shall submit a report ~~of such work,~~ to the ~~Kansas~~ department ~~of health and environment~~ and to the landowner~~,~~ on the water well record form~~, form WWC-5,~~ provided by the department.

(2) ~~The~~ Each contractor shall report to the department and to the landowner on the water well record ~~or~~ form provided by the department and attachments ~~made thereto~~ any polluted or other noncompliant conditions ~~which~~ that the contractor was able to correct and any conditions ~~which~~ that the contractor was unable to correct.

(3) ~~The~~ Each contractor shall report to the department and to the landowner the plugging of any abandoned water well on the water well record form provided by the department. ~~The report shall include the location, landowner's name, method, type of plug material, its placement and amount used to plug the abandoned water well.~~

(4) ~~A~~ Each landowner who constructs, reconstructs, or plugs a water well~~, which~~ that will be or was~~,~~ used by the landowner for farming, ranching, or agricultural purposes or is located at the landowner's ~~place of abode,~~ residence shall submit a ~~water well record, on form WWC-5, of such work to the department~~ report to the department on the water well record form provided by the department within 30 days after the construction, reconstruction, or plugging of the water well. No fee shall be required from the landowner for the record.

(b) Artificial recharge and return. ~~The construction of~~ Each contractor who constructs an artificial recharge ~~wells and~~ well or a freshwater return ~~wells~~ well shall

comply with all ~~applicable rules and~~ regulations ~~of the department~~ applicable to these wells specified in article 46.

(c) Water well tests. ~~When a pumping test is run on a well,~~ Results of ~~the~~ a pumping test shall be reported on the water well record~~,~~ form ~~WWC-5,~~ provided by the department or a copy of the contractor's record of ~~the~~ a pumping test shall be attached to the water well record form.

(d) Water samples. Within 30 days after the department's receipt of the water well record~~,~~ form ~~WWC-5~~ provided by the department, ~~the department may request~~ the contractor~~,~~ or landowner who constructs or reconstructs ~~his or her own~~ any water well~~,~~ may be requested by the department to submit a sample of water from the water well for chemical analysis. ~~Insofar as is possible, the department will define in advance areas from which well water samples are required.~~ The sample shall be submitted within 30 days after the department's request.

(e) Water well construction fee. Each contractor shall pay a $5.00 fee to the department for each water well constructed. The construction fee shall be paid when the contractor requests a water well record form provided by the department or shall accompany the water well record form submitted as specified in this regulation.

(f) License number. Each drill rig operated by or for a contractor shall prominently display the drill rig license number assigned by the department in letters and numbers at least two inches tall. Decals, paint, or other permanent marking materials

shall be used. (Authorized by K.S.A. 82a-1205 ~~and~~ ; implementing K.S.A. 82a-1202, 82a-1205, 82a-1212, and 82a-1213; effective, E-74-34, July 2, 1974; modified, L. 1975, ch. 481, May 1, 1975; amended May 1, 1980; amended May 1, 1987; amended P-_____.)

28-30-5. Construction regulations for public water-supply ~~and reservoir sanitation zone~~ wells. All activities involving public water-supply wells ~~and wells located in reservoir sanitation zones~~ shall ~~conform to existing statutes~~ meet the requirements of K.S.A. 65-163a, and amendments thereto, ~~and rules~~ and regulations of the ~~Kansas~~ department ~~of health and environment~~, including K.A.R. ~~28-10-100, 28-10-101, and~~ 28-15-16. (Authorized by K.S.A. 82a-1205; implementing K.S.A. 82a-1202~~,~~ and 82a-1205; effective, E-74-34, July 2, 1974; effective May 1, 1975; amended May 1, 1980; amended May 1, 1983; amended May 1, 1987; amended P-_____.)

28-30-6. Construction regulations for all water wells not included under ~~section~~ K.A.R. 28-30-5. (a) Each water well shall be ~~so located as~~ constructed to minimize the potential for contamination of the delivered or obtained groundwater and to protect groundwater aquifers from pollution and contamination.

(b) ~~Grouting.~~ The following requirements for grouting shall be met:

(1) Each constructed ~~or~~ water well and each reconstructed ~~wells~~ water well shall be sealed by grouting the ~~annular space~~ annulus between the casing and the ~~well bore~~ boring from ground level to ~~a minimum of~~ at least 20 feet or to ~~a minimum of~~ at least five feet into the first clay or shale layer if one is present, whichever is greater. If a pitless well adapter or unit is being installed, the grouting shall start below the point at which the pitless well adapter or unit attaches to the ~~well~~ casing and shall continue ~~a minimum of~~ at least 20 feet below this point~~,~~ or to ~~a minimum of~~ at least five feet into the first clay or shale layer, whichever is greater.

(2) ~~To facilitate grouting, the grouted interval of the well bore shall be drilled to a minimum~~ The diameter of the drilled boring shall be at least three inches greater than the maximum outside diameter of the ~~well~~ casing. ~~If a pitless well adapter or unit is being installed on the well's casing, the well bore shall be a minimum diameter of at least three inches greater than the outside maximum diameter of the well casing through the grouted interval below the point where the pitless well adapter or unit attaches to the well casing.~~

(3) Water from two or more separate aquifers shall be separated from each other in the boring by sealing the annulus between the aquifers with grout.

(c) If groundwater is encountered at a depth less than the minimum grouting requirement, the grouting requirement may be modified by the secretary to meet local conditions ~~if approved by the department~~.

(d) ~~Waters from two or more separate aquifers shall be separated from each other in the bore hole by sealing the bore hole between the aquifers with grout.~~

~~(e) The well casing shall terminate not less than one foot above the finished ground surface. No casing shall be cut off below the ground surface except to install a pitless well adapter unit, which shall extend at least 12 inches above the ground surface. No opening shall be made through the well casing except for the installation of a pitless well adapter designed and fabricated to prevent soil, subsurface and surface water from entering the well.~~

~~(f)~~ A well ~~vents~~ vent shall be used and shall terminate ~~not less than~~ at least one foot above the ground surface ~~and~~. The well vent shall be screened with brass, bronze, copper screen, or other screen materials approved by the ~~department which~~ secretary that are 16-mesh or greater and turned down in a full 180-degree return bend ~~so as~~ to prevent the entrance of contaminating materials.

~~(g)~~ (e) ~~Prior to~~ Before the completion of a constructed water well or a reconstructed water well, the water well shall be cleaned of mud, drill cuttings, and other foreign matter ~~so as~~ to make ~~it~~ the water well suitable for pump installations.

~~(h)~~ (f) ~~Casing.~~ Casing shall meet the following requirements:

(1) ~~All wells~~ Each water well shall have durable watertight casing from at least one foot above the finished ground surface to the top of the producing zone of the aquifer. The watertight casing shall extend ~~not less than~~ at least 20 feet below the ground level. Exceptions to either of ~~the above~~ these requirements may be granted by the ~~department~~ secretary if warranted by local conditions.

(2) Each water well shall be an above-grade surface completion, except that an at-grade surface completion may be used if all requirements of subsection (s) are met. Casing may be cut off below the ground surface to install a pitless well adapter or unit.

(3) No opening shall be made through the casing, except for the installation of a pitless well adapter or unit designed and fabricated to prevent soil, subsurface, and surface water from entering the water well.

(4) The casing shall ~~be clean and serviceable and of a type to guarantee reasonable life so as to insure adequate protection to the aquifer or aquifers supplying the groundwaters~~ meet the requirements of the department's document titled "approved water well casing: water well casing for water wells other than public water-supply wells," dated November 7, 2012, which is hereby adopted by reference.

Used, reclaimed, ~~rejected~~ defective, or contaminated pipe shall not be used for casing any water well.

~~All water well casing shall be approved by the department.~~

~~(i)~~ (g) ~~All wells~~ Each water well, when ~~unattached~~ unattended during construction, reconstruction, treatment, or repair~~,~~ or during use as a cased test ~~holes,~~ hole or as an observation or monitoring ~~wells~~ well, shall have the top of the ~~well~~ casing securely capped in a watertight manner ~~to prevent contaminating or polluting materials from gaining access to the groundwater aquifer~~.

~~(j)~~ (h) During construction, reconstruction, treatment, or repair and ~~prior to~~ before its first use, ~~all wells~~ each water well producing water for human consumption or food processing shall be disinfected according to K.A.R. 28-30-10.

~~(k)~~ (i) The top of the ~~well~~ casing shall be sealed by installing a sanitary well seal when the water well is completed.

~~(l)~~ (j) ~~All~~ Each groundwater-producing ~~zones that are~~ zone that is known or suspected to contain natural or man-made pollutants shall be ~~adequately~~ cased and grouted ~~off~~ in accordance with subsection (b) during construction of ~~the~~ any water well to prevent the movement of ~~polluted~~ groundwater to either overlying or underlying fresh groundwater zones.

~~(m)~~ (k) Toxic ~~materials~~ material shall not be used in the construction, reconstruction, treatment, or plugging of a water well, unless ~~those materials are thoroughly~~ the material is flushed from the water well ~~prior to~~ before use.

~~(n)~~ (l) ~~Any pump pit shall be constructed at least two feet away from the water well.~~ The pipe from the pump or pressure tank in the pump pit to the water well shall be sealed in a watertight manner where ~~it~~ the pipe passes through the wall of the pump pit.

~~(o)~~ (m) ~~Water wells~~ A water well shall not be constructed in ~~pits, basements, garages or crawl spaces~~ a pit, basement, garage, or crawl space. Each existing water ~~wells which are~~ well that is reconstructed, abandoned ~~and~~, or plugged in ~~basements~~ a basement shall conform to ~~these rules and regulations~~ the requirements specified in this article, except that the finished grade of the basement floor shall be considered ground level.

~~(p)~~ (n) ~~All drilling waters~~ Drilling fluid used during the construction or reconstruction of ~~any~~ each water well shall be initially disinfected by mixing ~~with the water enough~~ sodium hypochlorite with water to produce at least 100 milligrams per liter~~, mg/l,~~ (mg/l) of available chlorine.

~~(q)~~ (o) Natural organic or nutrient-producing material shall not be used during the construction, reconstruction, or treatment of a water well, unless ~~it~~ this material is ~~thoroughly~~ flushed from the water well and the groundwater aquifer or aquifers before the water well is completed. Natural organic or nutrient-producing material shall not be added to a grout mix used ~~to grout the well's annular space~~ in the annulus to grout the water well.

~~(r)~~ (p) ~~Pump mounting.~~ Each water well pump shall meet the following requirements:

(1) ~~All pumps~~ Each pump installed directly over the ~~well~~ casing shall be ~~so~~ installed ~~that~~ to form an airtight and watertight seal ~~is made~~ between the top of the ~~well~~ casing and the gear or pump head, pump foundation, or pump stand.

(2) ~~When the pump is not mounted directly over the well casing and the pump column pipe or pump suction pipe emerges from the top of the well casing,~~ A sanitary well seal shall be installed between the pump column pipe or pump suction pipe and the ~~well~~ casing if the pump is not mounted directly over the casing and the pump column pipe or pump suction pipe emerges from the top of the casing.

(3) An airtight and watertight seal shall be provided for the cable conduit ~~when~~ if submersible pumps are used.

~~(s)~~ (q) ~~Construction of~~ Each sand point ~~or well point water wells.~~ constructed, replaced, or reconstructed shall meet the following requirements:

(1) Each sand point ~~or well point water wells~~ shall be constructed by drilling or boring a pilot hole ~~to a minimum depth of~~ at least three feet below ground surface. The pilot hole shall be ~~a minimum of~~ at least three inches greater in diameter than the maximum outside diameter of the drive pipe or blank casing if the casing method is used.

(2) Each sand point ~~wells~~ shall ~~only~~ be completed ~~by~~ using ~~the casing method or the drive pipe method as described in paragraphs (1) and (2) below or other methods as described in paragraph (3) below. Sand point wells constructed prior to the effective date of this regulation shall not be required to meet these requirements. All sand point wells that are replaced, constructed, reconstructed or plugged after the effective date of this regulation shall meet these regulations.~~ one of the following methods:

~~(1)~~ (A) Casing method.

(i) ~~Approved, durable, watertight~~ Water well casing that meets the requirements of the department's document titled "approved water well casing: water well casing for water wells other than public water-supply wells," as adopted by reference in paragraph (f)(4), shall be set from ~~a minimum of~~ at least three feet below the ground surface to at least one foot above the ground surface. The casing shall be sealed between the casing and the pilot hole with ~~approved~~ grouting material approved by the secretary from the bottom of the casing to ground surface.

(ii) The drive pipe shall be considered the pump drop pipe~~. For underground discharge completions, a "T" joint shall be used. The drive pipe~~ and shall be capped with a solid cap ~~at the "T" joint when the casing method is used~~.

(iii) For underground discharge completions, a "T" joint shall be used.

(iv) ~~An approved~~ A sanitary well seal and a well vent shall be installed on the top of the ~~well~~ casing in accordance with ~~K.A.R. 28-30-6(f) and (k)~~ subsections (d) and (i).

~~(2)~~ (B) Drive pipe method.

(i) A sand point ~~wells~~ may be installed without a casing for ~~above ground~~ aboveground discharge completions only. In ~~such~~ these completions, the drive pipe shall terminate at least one foot above finished ground level.

(ii) The ~~annular space~~ annulus between the drive pipe and the pilot hole shall be sealed ~~with approved grouting material~~ from the bottom of the pilot hole to ground surface with grout. The top of the drive pipe shall be sealed airtight and watertight with a solid cap of the same material as that of the drive pipe.

(iii) A well vent shall not be required ~~for the drive pipe method~~.

~~(3)~~ (C) Other methods. Other methods may be ~~specifically~~ approved by the ~~department~~ secretary on a case-by-case basis ~~by~~ using the appeal procedure ~~included~~ specified in K.A.R. 28-30-9.

~~(4)~~ (r) ~~Abandonment of sand point wells.~~ Upon abandonment of a sand point ~~well~~, the contractor or landowner shall ~~either~~ pull the drive pipe or leave it in place.

(1) If the drive pipe is left in place, the sand point ~~well~~ shall be plugged from the bottom of the well to three feet below the ground surface with approved grouting material. The sand point constructed by the drive pipe ~~well~~ method shall be cut off three feet below the ground surface, and the remaining three-foot-deep hole shall be backfilled with surface soil.

(2) If the drive pipe is completely pulled, the remaining hole shall be plugged with approved grouting material from the bottom of the remaining hole to three feet below the ground surface. The hole shall be backfilled with surface soil from ~~3~~ three feet to ground surface.

(s) Each monitoring well shall be an above-grade surface completion, unless the monitoring well is located on a roadway, sidewalk, driveway, parking lot, or other heavily trafficked area that requires an at-grade surface completion monitoring well. The following requirements shall be met for each at-grade surface completion:

(1) The location of each monitoring well shall be identified by a unique well number marked on a scaled map that shows latitude and longitude coordinates. The water well contractor shall submit the scaled map and coordinates to the department with the water well record form provided by the department.

(2) The construction method for each monitoring well shall meet the requirements of the department's procedure document titled "flush-mount well construction detail," dated May 23, 2012, which is hereby adopted by reference. (Authorized by K.S.A. ~~1991 Supp.~~ 82a-1205; implementing K.S.A. 82a-1202~~, K.S.A. 1991 Supp.~~ and 82a-1205; effective, E-74-34, July 2, 1974; modified, L. 1975, ch. 481, May 1, 1975; amended May 1, 1980; amended May 1, 1983; amended May 1, 1987; amended June 21, 1993; amended P-_____.)